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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PASTERCZYK, JAMES W

ART UNIT PAPER NUMBER

1755

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,877

Applicant(s)

FORESTIERE ET AL.

Examiner

J. Pasterczyk

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 12-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 12-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) g.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1755

1. Claims 1, 2 and 12-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There does not appear to be any disclosure of how to use the invention as a catalyst or absorbent. For instance, what reaction does this material catalyze? What materials does this composition absorb? Under what conditions would one carry out the catalysis or absorption processes?

2. Claims 1, 2 and 12-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims use the term "mineral oxide", yet a mineral is a geological entity, not necessarily a chemical entity. For instance, mica and feldspar are minerals, while titanium oxide and alumina are metal oxides. If applicants mean to recite metal oxide instead of mineral oxide, they should do so.

3. Claims 1, 2 and 12-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear what is meant by a "mineral" oxide; is this e.g. mica or feldspar or granite? In l. 4 and 7 the term "bond(s)" is used to refer to three atom groups; the proper term should be --group(s)--. The connectivity of the atoms in this material is unclear; which oxygen

Art Unit: 1755

atoms of the P/S group are bonded to the “mineral” oxide, and can the oxide of this count as the oxygen that binds the P/S group to it?

In claim 15, l. 2, insert --the group consisting of-- after “selected from”, change “or from” to --and--, and switch the order of “acid” and “sulphonic”. These corrections should also be done to claim 16.

In claim 12, change the obsolete Roman numerals to the contemporary terminology of Arabic numerals to eliminate confusion as to what groups are actually being recited.

In claim 13 delete “elements from”.

In claim 14 delete “elements from” and “by” in the second line.

In claim 17, it is not clear how one obtains metal oxides or mineral oxides from metal halides or alkoxides as their starting materials. It is also not clear what “derivative” means in l.

2. In l. 5 insert a comma before “is”. The variable n is undefined.

In claim 18, l. 1, again it is not clear what is meant by “derivative” in this context, with or without recourse to the specification. In the penultimate line insert --the group consisting of-- after “selected from”. In l. 6 the material between the commas is prolix with what is already recited in claim 17 and thus should be cancelled.

4. There appears to be no “Brief Description of the Figure” in the specification as required.

5. The abstract should be amended in the manner set forth above for the claims.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1755

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 12-17, 27, 28 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by French Patent 2 753 971 (hereafter referred to as Corriu).

Corriu discloses the invention as claimed (p. 1, l. 16-23; p. 3, l. 10 to p. 4, l. 21, especially p. 3, l. 35 and p. 4, l. 18; p. 6, l. 7-14; p. 8, l. 33-38).

8. Claims 1, 2, 12-17, 19, 21, 22, 30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Calhoun, USP 3,177,233 (hereafter referred to as Calhoun).

Calhoun discloses the invention as claimed (col. 1, l. 16-72; examples).

9. Claims 1, 2, 12-17, 19, 21, 27, 30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Wieserman et al., USP 4,994,429 (hereafter referred to as Wieserman).

Wieserman discloses the invention as claimed (abstract; col. 5, l. 38-53; col. 6, l. 35-68; col. 9, l. 13-20; col. 10, l. 25-68).

10. Claims 1, 2, 12-17, 19, 21, 24, 30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Dines et al., Inorg. Chem. vol. 20, no. 1, pp. 92-97 (1981) (hereafter referred to as Dines).

Dines discloses the invention as claimed (p. 93, table 1, second column compounds 3 and 5, third column compound 7, equation 3).

11. Claims 1, 2 and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Alberti et al., Adv. Mater. vol. 8, no. 4, pp. 291-303 (1996) (hereafter referred to as Alberti).

Alberti discloses the invention as claimed (p. 296, table 3, right column, 7th and 8th compounds).

Art Unit: 1755

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 2 and 12-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Wieserman, Calhoun, and Dines as cited above.

The disclosures of these references have been discussed above.

None of these references discloses or teaches the preferred embodiments of claims 18 or 20.

However, it would have been conventional in the art to use a metal alkoxide as the metal oxide source and to use a silane group as a leaving group on the phosphorus containing compound used in the reaction to make the compound since the resulting silane product would have formed a good, unreactive leaving group.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosures of any of Wieserman, Calhoun or Dines with a reasonable expectation of obtaining a highly-useful catalyst or absorbent with the expected benefit of being able to use a wider variety of starting materials to make the compound.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 703-308-3497. The examiner can normally be reached on M-F from 9 to 5:30.

Art Unit: 1755

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at 703-308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



JP

11/14/03



Mark L. Bell
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